

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 14 of 20

Attorney's Docket No.: 13361-063001 / MP0362

REMARKS

Claims 1, 5, 10, 12, 16, 21, 26, 30, 34, 36, 40, 45, 49, 54, 58, 62 and 66 have been amended. No new matter has been added. The claims have been amended to remove a limitation that is not required for patentability. Claims 1-67 remain pending in the application. Applicant respectfully requests reconsideration in view of the foregoing amendments and these remarks.

Applicant wishes to thank Examiner Vu and Supervisory Examiner Willoughby for the courtesy of an in person interview that was conducted with the undersigned on February 22, 2006. Claims 1 and 23 were discussed along with the Denning and Bien references. No specific agreement was reached. In the summary, the Examiner noted that with respect to claim 23, that the Denning reference does not disclose a shutdown of bias, rather a reduction of bias. Further the Examiner noted with respect to claim 1, that the Bien reference showed a gain setting resistance circuit rather than a shunt control for shunting and releasing and RF input signal to/from ground as set forth in the claim. The Examiner agreed to reevaluate the prior art based on the interview discussion and these formal remarks.

Applicant wishes to thank the Examiner for noting that claims 9 and 20 were merely objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant reserves the right to make such an amendment.

The Examiner indicated that Applicant's claim for priority has been acknowledged. However, the Examiner also indicated that one or more of the priority documents examined may be improper. Applicant respectfully asserts that the filing receipt included an incorrect priority claim. Applicant's priority claim is correctly indicated in the declarations filed in the Application and includes a single priority document to U.S. Provisional Application 60/470,629. Applicant has filed a request to correct the filing receipt error. A copy of said submission is attached herewith. Applicant as well requests withdrawal of the alleged defect to Applicant's priority claim.

35 USC 102(e)

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 15 of 20

Attorney's Docket No.: 13361-063001 / MP0362

Claims 23, 24, 31, 37, 42, 43, 50, 51, 52, 59, 60 and 67 were rejected by the Examiner under 35 USC 102(e) as being anticipated by U.S. Patent No. 6, 525, 611 (hereinafter referred to as "Denning"). Applicant respectfully traverses the rejection.

Claim 23 is directed to an RF power amplifier that includes, in relevant part, amplifier circuitry, peak detection circuitry and a bias network that is operable to provide bias to the amplifier circuitry and shut off the bias when the peak detection circuitry detects that an amplified output signal has exceeded a threshold voltage level.

Denning does not teach or suggest a bias network that is operable to shut off the bias when the peak detection circuitry detects an amplified output signal has exceeded a threshold voltage level. As discussed in the interview, Denning shows circuitry for reducing the bias provided to an amplifier. See Denning Abstract 1-4, and specification at Col. 3, lines 50-53. As is indicated in Denning's specification, the reduction is preferably proportionally multiplied by the amount the output voltages exceed the defined threshold (see Denning at Col. 3, lines 54-56). Applicant respectfully asserts that proportional multiplication as taught in Denning is not the same as shutting off the bias to the amplifier circuitry as set forth in Applicant's claim. No proportional multiplication needs to be performed. Denning clearly teaches away from Applicant's claimed method indicating a clear preference toward the use of a proportional multiplier. Applicant's claimed method provides no such adjustment, and rather, shuts off the bias. Applicant respectfully asserts that claim 23 is allowable over Denning for at least this reason.

Claim 24 depends from claim 23 and is allowable for at least the same reasons as claim 23.

Claim 31 is directed to a method for protecting a RF power amplifier and includes the step of shutting off bias to an output transistor of the RF power amplifier when an output voltage exceeds a threshold. Applicant respectfully asserts that claim 31 is allowable for at least the same reasons set forth above with respect to claim 23.

Claim 37 is directed to a protection circuit that includes a means for shutting off bias to an output transistor of the RF power amplifier when an output voltage exceeds a threshold.

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 16 of 20

Attorney's Docket No.: 13361-063001 / MP0362

Applicant respectfully asserts that claim 37 is allowable for at least the same reasons set forth above with respect to claim 23.

Claim 42 is directed to a wireless transceiver the includes a bias network that is operable to shut off bias to amplifier circuitry when an output voltage exceeds a threshold. Applicant respectfully asserts that claim 42 is allowable for at least the same reasons set forth above with respect to claim 23.

Claims 43 and 50 depend from claim 42 and are allowable for at least the same reasons as claim 42.

Claim 51 is directed to a power amplifier that includes biasing means for shutting off the bias to an amplifying means when detecting means detects that the amplified output signal has exceeded the threshold voltage level. Applicant respectfully submits that claim 51 is allowable for at least the same reasons set forth above with respect to claim 23.

Claim 52 depends from claim 51 and is allowable for at least the same reasons as claim 51.

Claim 59 is directed to a wireless transceiver that includes a biasing means for shutting off the bias to an amplifying means. Claim 59 is allowable for at least the same reasons set forth above with respect to claim 23.

Claims 60 and 67 depend from claim 59 and is allowable for at least the same reasons as claim 59.

35 USC 103(a)

Claims 1-3, 7, 8, 10, 12-14, 18, 19, 21, 23, 25-28, 30-42, 44-49, 51, 53-56, 58, 59, 61-64 and 66 were rejected under 35 USC 103(a) as being unpatentable over United States Patent No. 5, 150, 075 to Hietala et al. (hereinafter "Hietala") in view of US Patent No. 6, 388, 525 to Bien (hereinafter referred to herein as "Bien"). Applicant respectfully traverses the rejection.

Claim 1 is directed to a protection circuit for a radio frequency (RF) power amplifier that includes a shunt circuitry operable to shunt an RF input signal to AC ground that includes a shunt switch operable to shunt the RF input to AC ground and release the RF input signal from AC ground.

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 17 of 20

Attorney's Docket No.: 13361-063001 / MP0362

Applicant respectfully submits that the combination of Hietala and Bien fail to teach or suggest Applicant's claimed shunt circuitry including shunt switch. More specifically, the Examiner admits in his action at page 5 lines 11-13 in section 4 that Hietala fails to teach or suggest Applicant's shunt circuitry and shunt switch. For these features the Examiner relies on Bien.

Bien shows amplifier with variable signal gain that is controlled by a variable gain resistance Z_s shown in Figure 4. Bien's variable gain resistance is not the same as Applicant's claimed shunt circuitry. As a preliminary matter, Bien's circuitry is configured once, to set gain for the circuitry and is not operable to shunt an RF signal to AC ground as set forth in Applicant's claim. Further, Bien does not teach or suggest Applicant's claimed shunt circuitry that also is operable to release the RF input from AC ground. As indicated above, Bien shows only a gain setting variable resistance. Bien does not teach or suggest both shunting and releasing an RF signal to/from ground. Bien's variable resistance is used in combination with the feedback resistance to set a gain for the amplifier. Bien does not teach or suggest Applicant's claimed circuitry for shunting and releasing an RF signal.

Claims 2-3, 7, 8 and 10 depend from claim 1 and are allowable for at least the same reasons set forth above with respect to claim 1.

Claim 12 is directed to a protection circuit that includes shunting means for shunting an RF input signal to AC ground and releasing the RF input signal from ground. Applicant respectfully asserts that claim 12 is allowable for at least the same reasons set forth above with respect to claim 1.

Claims 13-14, 18, 19 and 21 depend from claim 12 and are allowable for at least the same reasons set forth above with respect to claim 1.

Claim 23 is directed to an RF power amplifier that includes a bias network and a peak detection circuitry. The Examiner has suggested that Bien shows Applicant's bias network. Applicant respectfully asserts that Bien includes no bias network. As discussed above, Bien only shows a variable controlled gain circuit for an amplifier. Bien does include a bias circuit as shown in Figure 7 and the accompanying text. However, Bien's bias circuit is not operable to

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 18 of 20

Attorney's Docket No.: 13361-063001 / MP0362

shut off the bias to the amplifier. Bien does not teach or suggest bias circuit shut off.

Accordingly, claim 23 is allowable for at least the same reasons set forth above previously with respect to this claim.

Claim 25-28 and 30 depend from claim 23 and are allowable for at least the same reasons set forth above with respect to claim 23.

Claim 31 is directed to a method for protecting a RF power amplifier and includes the step of shutting off bias to an output transistor of the RF power amplifier when an output voltage exceeds a threshold. Applicant respectfully asserts that claim 31 is allowable for at least the same reasons set forth above with respect to claim 23.

Claims 32-36 depend from claim 31 and are allowable for at least the same reasons set forth above with respect to claim 31.

Claim 37 is directed to a protection circuit that includes a means for shutting off bias to an output transistor of the RF power amplifier when an output voltage exceeds a threshold. Applicant respectfully asserts that claim 37 is allowable for at least the same reasons set forth above with respect to claim 23.

Claim 38-41 depend from claim 37 and are allowable for at least the same reasons set forth above with respect to claim 37.

Claim 42 is directed to a wireless transceiver the includes a bias network that is operable to shut off bias to amplifier circuitry when an output voltage exceeds a threshold. Applicant respectfully asserts that claim 42 is allowable for at least the same reasons set forth above with respect to claim 23.

Claims 44-49 depend from claim 42 and are allowable for at least the same reasons as claim 42.

Claim 51 is directed to a power amplifier that includes biasing means for shutting off the bias to an amplifying means when detecting means detects that the amplified output signal has exceeded the threshold voltage level. Applicant respectfully submits that claim 51 is allowable for at least the same reasons set forth above with respect to claim 23.

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 19 of 20

Attorney's Docket No.: 13361-063001 / MP0362

Claims 53-56 and 58 depends from claim 51 and is allowable for at least the same reasons as claim 51.

Claim 59 is directed to a wireless transceiver that includes a biasing means for shutting off the bias to an amplifying means. Claim 59 is allowable for at least the same reasons set forth above with respect to claim 23.

Claims 61-64 and 66 depend from claim 59 and is allowable for at least the same reasons as claim 59.

Claims 4-6, 11, 15-17, 22, 29, 48 57 and 65 have been rejected under 35 USC 103(a) as being unpatentable over Hietala, in view of Bien and further in view of United States Patent No. 6, 603, 335 to Macphail. Applicant respectfully traverses the rejection.

Claims 4-6 and 11 depend from claim 1 and are allowable for at least the same reasons set forth above with respect to claim 1.

Claims 15-17 and 22 depend from claim 12 and are allowable for at least the same reasons set forth above with respect to claim 12.

Claim 29 depends from claim 23 and is allowable for at least the same reasons set forth above with respect to claim 23.

Claim 48 depends from claim 42 and is allowable for at least the same reasons set forth above with respect to claim 42.

Claim 57 depends from claim 51 and is allowable for at least the same reasons set forth above with respect to claim 51.

Claim 65 depends from claim 59 and is allowable for at least the same reasons set forth above with respect to claim 59.

No fees are believed to be due at this time. Please apply any other charges or credits to deposit account 06-1050.

Applicant : Wayne E. Loeb et al.
Serial No. : 10/767,045
Filed : January 28, 2004
Page : 20 of 20

Attorney's Docket No.: 13361-063001 / MP0362

Respectfully submitted,



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